

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Gokhale et al.

Application No.: 09/991,900

Confirmation No.: 3389

Filed: November 23, 2001

Art Unit: 2161

For: **METHOD AND SYSTEM FOR
SCHEDULING MEDIA EXPORTS**

Examiner: Chen, Te Y

APPELLANT'S BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This brief is in furtherance of the Notice of Appeal, filed in this case on June 20, 2006.

The fees required under 37 C.F.R. § 1.17(f) and 1.17(p) and any required petition for extension of time for filing this brief and fees therefore are dealt with in the accompanying FEE TRANSMITTAL.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37 and MPEP § 1206:

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I. REAL PARTY IN INTEREST

CommVault Systems, Inc.

II. RELATED APPEALS AND INTERFERENCES

The applicant, the applicant's legal representative, and the real party in interest are unaware of any appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application

There are 20 claims pending in the application.

B. Current Status of Claims

1. Claims canceled: None.
2. Claims withdrawn from consideration but not canceled: None.
3. Claims pending: 1-20.
4. Claims allowed: None.
5. Claims rejected: 1-20.

C. Claims On Appeal

The claims on appeal are claims 1-20.

IV. STATUS OF AMENDMENTS

The applicant has not filed any amendments after the last Office Action of January 20, 2006.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The following provides a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, including a chart summarizing instances where support for each of the independent claims may be found in the specification:

A. Concise explanation of the subject matter of claim 1

Claim 1 is directed to a method for exporting removable media in a storage device according to a schedule. The storage device receives export identification data, such as first data identifying one or more removable media from the storage device to be exported. The system also receives second data identifying a second time at which the one or more removable media is scheduled to be exported. The storage device stores the export identification data in a data file. At the second time, the storage device uses the stored export identification data to select the one or more removable media to be exported to export the selected media from the storage device library. Support for claim 1 is found, for example, at page 6, line 16 to page 7, line 5 of the Specification.

B. Concise explanation of the subject matter of claim 12

Claim 12 is directed to an administrative system for scheduling an export of one or more removable media from a storage device. The system includes a user interface for receiving, at a first time, export identification data comprising first data identifying one or more removable media from the storage device to be exported. The user interface also receives second data identifying a second time at which the identified one or more removable media is scheduled to be exported. The system includes a data file stored in a memory device for storing the export identification data. Furthermore, the system includes a task control subsystem for retrieving the export identification data at the second time from the data file and controlling the storage device to cause the export

of the removable media identified by the media identification data. Support for claim 12 is found, for example, at page 5, line 19 to page 6, line 3 of the Specification.

C. Concise explanation of the subject matter of claim 18

Claim 18 is directed to a data structure stored on a computer readable medium that includes first data identifying one or more removable media from a storage device and second data identifying a time at which the identified one or more removable media are scheduled to be exported from the storage device. The data structure is accessed by a task control application program at the second time to determine which one or more removable media are scheduled to be exported at the second time. The data structure is also accessed to send a control signal to the storage device to initiate export of the identified one or more removable media. Support for claim 18 is found, for example, at page 6, lines 4-12 of the Specification.

D. Summary of Exemplary Sections of the Specification

<i>Claim</i>	<i>Specific Section(s) of the Specification</i>
1	Page 6, line 16 to page 7, line 5.
12	Page 5, line 19 to page 6, line 3; page 7, line 19 to page 8, line 8.
18	Page 6, lines 4-12.

Computer backup systems often backup data to long term storage devices controlled and stored in media libraries. Long term storage devices, sometimes referred

to as removable media devices, may include magnetic tapes, optical disks, and so on. Media libraries contain equipment such as automated arms that move and export removable media to and from media libraries. For example, media libraries may export a magnetic tape out of a library when the tape is to be archived off-site. See, e.g., Specification at page 5, lines 5-14.

Computer backup systems may be physically separated from a media library. In these cases, the system may send control signals to a library to export a magnetic tape or disk. The control signals may invoke mechanical movements within the library, such as an automated arm moving to a tape, gripping the tape, moving the tape to an export bin, and dropping the tape into the export bin. Often, there is a delay between receiving a command to export removable media and the actual exporting of the removable media. In sum, current systems are not always able to export media from a library immediately after receiving such requests from administrators. For example, current systems may assign all command requests to a queue (e.g., read, write, and export requests), and process the various requests via the queue, regardless of importance or timing issues. See, e.g., Specification at page 5, lines 14-20.

Systems and methods of the present invention improve over prior systems in part by not being bound by a command request queue. Examples of the present invention provide for the exporting of media from a library according to a schedule, such as exporting media corresponding to a number of received commands in a batch at a given scheduled time. The system may receive both (1) data that identifies media to be exported from a library and (2) data that indicates a time when the media is scheduled to be exported. The system may then use the identification data and the scheduling data for exporting the media. See, e.g., Specification at page 3, lines 5-15. For example, the system may receive instructions from a system administrator that identifies media to be exported and identifies the time of exporting.

In some cases, the system may receive additional or modified media requests containing data corresponding to a similar time of export. In these cases, the system receives data, from multiple scheduling commands, corresponding to the export of multiple media components at a single scheduled time, and exports these components at that time. In other words, the system enables administrators to schedule individual or batched media exports. See, e.g., Specification at page 7, lines 16-24.

For example, at a scheduled time, the system generates a list of media to be exported, based on the earlier received information. The system transmits the list of media to the library, and the equipment of the library carries out the exporting of the media. See, e.g., Specification at page 7, line 9 to page 8, line 7.

In these cases, the system is able to receive both identifying information and scheduling information from administrators requested media from libraries. Thus, at a scheduled time, the system handles many export requests received at earlier times.

VI. GROUNDS OF REJECTION TO BE REVIEWED UPON APPEAL

The grounds of rejection to be reviewed on appeal are whether claims 1-20 are unpatentable over U.S. Patent No. 5,764,972 to Crouse et al. in view of U.S. Patent No. 5,898,593 to Baca et al.

VII. ARGUMENTS

A. Rejections under 35 U.S.C. § 103(a)

1. Legal requirements for obviousness

35 U.S.C. § 103(a) provides:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary

skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

As stated in section 2142 of the M.P.E.P., "to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Emphasis added.

Appellant's respectfully request that the Examiner's rejection under 35 U.S.C. § 103 be reversed based on failure to establish a case of obviousness based on the above standards.

2. The applied references

a. The Crouse Reference

Crouse is directed to an archiving file system for data servers in a distributed network environment. Crouse discloses an archiving file system that automatically archives remote files across multiple types of media on network data servers. Crouse at Abstract. According to Crouse, "it would be desirable to provide a file system that automatically manages the long-term storage and retrieval of large volumes of data as part of a network data server across multiple types of secondary storage media." Crouse at 4: 7-15. Crouse discloses a "unique archiving file structure" that "is a flexible control structure that is used for storing control information about the remote files as part of an addressable control file." Crouse at 4: 42-55.

b. *The Baca Reference*

Baca is directed to an automated data storage library having a movable column for selective import and export of portable magazines. Baca at Abstract. Baca discloses a very detailed and specific configuration of portable magazines, columnar elevators, and level latches. Baca at 2: 3-36. Using such equipment, Baca aims "to be able to rapidly export any selected group of the data storage media from [a] failing library and import them into a fully functioning library." Baca at 1: 55-63.

B. Claims 1-20: The Combination of Crouse and Baca Do Not Teach or Suggest all the Claim Limitations

Claims 1-20 are taken as a group.¹

Claim 1 is directed to a method for exporting removable media in a storage device, or library, according to a schedule, comprising, *inter alia*, the following:

at a first time, receiving export identification data comprising first data identifying one or more removable media from the storage device to be exported and second data identifying a second time at which the one or more removable media is scheduled to be exported; and

at the second time, using the stored export identification data to select one or more removable media to be exported to export the selected media from the storage device library. (Emphasis added).

Neither Crouse nor Baca describe these elements. As described above, Crouse is directed to an archiving file structure with a flexible control structure used for storing control information about remote files as part of an addressable control file. Crouse does not disclose exporting media, instead focusing on automatically storing and

¹ The applicant has grouped the claims to simplify issues on appeal. The applicant, however, does not admit that the claims in any group stand or fall together for purposes other than this appeal. In particular, the applicant reserves the right to argue the patentability of each claim separately in a subsequent action, such as reopened prosecution or litigation.

accessing remote files stored across data networks.² Indeed, a text search of Crouse finds no occurrence of the word "export" or synonyms.

As described above, Baca discloses equipment in a data storage library that assists in selective import and export of portable magazines to and from a library. Portable magazines, as described by Baca, "contain a plurality of storage cells for holding portable data storage media." Baca at 3: 17-25. Thus, in cases of library failure, the system of Baca is able to transport groups of data storage media quickly via portable magazines that house multiple media. However, Baca does not disclose exporting media according to a schedule, as described in claim 1.

Baca discloses a library controller that uses cartridge identifiers and job queue contents to schedule picker moves and to schedule the export of selected magazines. Baca at 6: 65 – 7:10. The Office Action of January 20, 2006 asserts that Baca "discloses a data storage system [for] automatically scheduling an import and export I/O commands for removable devices," and cites passage 7: 1-60. Applicant agrees that the cited passage is related to the export of removable media (albeit in portable magazines), and discloses scheduling of resources in a media library. However, the relevant passages of Baca disclose using positioning information and job queue information to schedule picker moves and export of selected magazines, which is unrelated to the claimed elements described above. In other words, the "scheduling" in Baca relates to coordinating specific internal operations in the library, such as moving a picker and rearranging stacks of magazines so that a desired magazine is on top of a stack for exporting. The "scheduling" in Baca does not disclose "identifying a second time at which the one or more removable media is scheduled to be exported" as recited

² The Office Action of January 20, 2006 asserts that Crouse provides disclosure related to exporting of media from a library, citing passages at 16:50 – 17:12, 19: 1-68, Figure 16e, and 20: 14-39. However, as may be clearly deduced from a reading of Crouse, the cited passages or elements describe a relationship between principal control modules and program modules, a removable media module 182, that manages media within a library, close file commands that enable media to be unloaded from a drive in the library, and the scanning of media, respectively. Therefore, applicant asserts that the Office Action's characterization of Crouse, at least with respect to the discussed passages, is incorrect.

by the claim. Therefore, applicant asserts that the Office Action's characterization of Baca, at least with respect to the discussed passages, is incorrect.

The applicant has already addressed this issue, as stated in our October 25, 2005 Response (pages 3-4):

"Instead, the 'schedule' referred to in Baca relates to a series of jobs in a job queue that get performed in sequence. Col. 7, lines 1-3. That is, an operator must initiate an export in Baca by an input command, col. 7, lines 3-8, and this command is placed in a job queue with other such commands or jobs, all for immediate performance in sequence. Col. 7, lines 1-3 and 33-51. The information used for this export is, as discussed at col.6, lines 62-67, *current* information about the location of magazine cartridges and pickers.

Thus, the Baca system exports a magazine at the time it receives the instruction to export the magazine. That is the only 'schedule' discussed in Baca – 'scheduling' in a series of job[s] in a job queue. There is no discussion in Baca of receiving data identifying a *time* at which one or more removable media is scheduled to be exported.... Instead, Baca discusses exporting media in response to an input command based on current information about magazines and pickers. Further, there is no discussion in Baca of scheduling an export of removable media at a time other than the time at which an input command to export data is received."

Claim 1, on the other hand, describes receiving data that identifies removable media for export and schedules the time of export. . As discussed above, Baca does not suggest or teach such a feature. Overall, there is no disclosure or suggestion of providing data related to scheduling exports, let alone providing data related to scheduling exports at a later time. Thus, claim 1 is patentable.

Dependent claims 2-11 include all the limitations of independent claim 1, and are thus patentable for similar reasons.

Claims 12-17 include limitations similar to those described above with respect to claims 1-11, including elements directed to data identifying a later time at which removable media is scheduled to be exported, and is thus similarly patentable.

Claims 18-20 are directed to computer readable media and include limitations similar to those described above with respect to claims 1-11 and are thus similarly patentable.

In sum, for at least these reasons, claims 1-20 are patentable for because the combination of Crouse and Baca does not describe a system or method of scheduling the time of a media export before the media is exported. There is simply no disclosure in either reference of scheduling a media export when identifying the media to be exported. Thus, any combination of the references is also lacking.

C. Claims 1-20: There is No Suggestion or Motivation to Combine Reference Teachings

Possibly more importantly, there is no teaching or suggestion in the references or the prior art that would motivate one of ordinary skill to combine the Crouse and Baca references. The Office Action of January 20, 2006 asserts that "an ordinary skilled person in the art at the time the invention was made would have been motivated to modify Crouse's user interface with the import and export commands as disclosed by Baca, because by doing so, the combined system will facilitate a system user to schedule the import or export operation with ease." Applicant respectfully disagrees.

Crouse does not disclose the export of media from a media library. Instead, Crouse seeks to provide systems that automatically store and access remote files stored across data networks.

APPENDIX A

Claims Involved in the Appeal of Application Serial No. 09/991,900

1. A method for exporting removable media in a storage device according to a schedule, comprising:

at a first time, receiving export identification data comprising first data identifying one or more removable media from the storage device to be exported and second data identifying a second time at which the one or more removable media is scheduled to be exported;

storing the export identification data in a data file; and

at the second time, using the stored export identification data to select the one or more removable media to be exported to export the selected media from the storage device library.

2. The method of claim 1, wherein receiving export identification data comprises receiving a list of one or more removable media.

3. The method of claim 2, wherein receiving a list of one or more removable media comprises receiving a list of removable media identifiers.

4. The method of claim 1, wherein receiving export identification data comprises receiving one or more removable media selection criteria.

5. The method of claim 4, wherein using the stored export identification data to select the one or more removable media to be exported comprises evaluating the stored removable media selection criteria to determine which of the removable media in the library meets the one or more removable media selection criteria.

6. The method of claim 4, wherein receiving one or more removable media selection criteria comprises receiving a criteria defined by a length of time since a removable media was last read from or written to.

7. The method of claim 1, wherein storing the export identification data comprises storing the export identification data in an administrative task parameter table.

8. The method of claim 7, comprising accessing the administrative task parameter table at the second time to retrieve the identification data.

9. The method of claim 1, comprising storing an export history table containing a plurality of fields identifying the removable media to be exported and a status of the export of each such removable media.

10. The method of claim 8, comprising updating the export history table following an attempt to export the removable media from the storage device.

11. The method of claim 1, comprising receiving an instruction to halt or delay an export and halting or delaying the export.

12. An administrative system for scheduling an export of one or more removable media from a storage device, the system comprising:

a user interface for receiving, at a first time, export identification data comprising first data identifying one or more removable media from the storage device to be exported and second data identifying a second time at which the identified one or more removable media is scheduled to be exported;

a data file stored in a memory device for storing the export identification data;

and

a task control subsystem for retrieving the export identification data at the second time from the data file and controlling the storage device to cause the export of the removable media identified by the media identification data.

13. The system of claim 12, wherein the user interface is configured to allow a user to specify one or more removable media to be exported by one or more respective removable media identifiers, the data file storing the specified removable media identifiers.

14. The system of claim 12, wherein the user interface is configured to allow a user to specify one or more criteria by which removable media is selected to be exported, the database storing the specified one or more criteria.

15. The system of claim 14, wherein the task control subsystem comprises an evaluator for evaluating the stored criteria to determine which one or more removable media in the storage device satisfy the specified one or more criteria at the second time.

16. The system of claim 12, comprising an export history data file stored in a memory device, the export history data file containing a field associated with each removable media indicating a status of the export of the removable media.

17. The system of claim 12, wherein the user interface is configured to allow a user to specify second data comprising a specified event following which the removable media is to be exported.

18. A data structure stored on a computer readable medium comprising first data identifying one or more removable media from a storage device and second data identifying a time at which the identified one or more removable media are scheduled to be exported from the storage device, the data structure being accessed by a task

control application program at the second time to determine which one or more removable media are scheduled to be exported at the second time and to send a control signal to the storage device to initiate export of the identified one or more removable media.

19. The data structure of claim 18, wherein the first data comprises a list of one or more removable media identifiers.

20. The data structure of claim 19, wherein the first data comprises one or more criteria by which one or more removable media is selected to be exported at the second time.

Appendix B

No evidence pursuant to §§ 1.130, 1.131, or 1.132 or entered by or relied upon by the examiner is being submitted.

Appendix C

No related proceedings are referenced in II. above, or copies of decisions in related proceedings are not provided, hence no Appendix is included.